

## **ABSTRACT OF THE DISCLOSURE**

A microscopic imaging apparatus with flat-top distribution of light is disclosed, which includes an incident light source, a diffractive optical element, a beam-splitter, a tunable filter and an image sensor. The  
5 diffractive optical element receives an incident light provided by the incident light source and generates a uniform incident light. The uniform incident light illuminates a sample so that an optical signal is emitted from the sample. The optical signal passes through the beam-splitter and the filter unit to reach the image sensor for obtaining the detected image of the  
10 sample.